

Australian Standard<sup>®</sup>

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**Adhesives—For fixing  
ceramic tiles**

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This Australian Standard was prepared by Committee CH/17, Adhesives. It was approved on behalf of the Council of Standards Australia on 6 April 1990 and published on 12 November 1990.

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The following interests are represented on Committee CH/17:

Adhesives and Sealants Manufacturers Association of Australia  
Chemical Federation of Australia  
Confederation of Australian Industry  
Division of Building, Construction and Engineering, CSIRO  
Footwear Manufacturers Association of Australia  
Furniture Manufacturers Association of Australia  
Plywood Association of Australia  
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This Standard was issued in draft form for comment as DR 88091.

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First published as AS 2358—1980.  
Second edition 1990.

Incorporating:  
Amdt 1—1994

## PREFACE

This Standard was prepared by the Standards Australia Committee on Adhesives, under the direction of the Chemical Standards Board, to supersede AS 2358 — 1980, *Adhesives for ceramic wall tiles and mosaics*. It is to be used in conjunction with the Standard for fixing of ceramic tiles, which is under preparation.

This edition has been expanded to comprise four sections.

Unlike the previous edition, adhesives for fixing ceramic floor tiles have been included, and provision has been made for the testing of the adhesive with tiles of low water absorption. Requirements for shear modulus of elasticity have also been included and the test for staining has been amended. Performance requirements for cement-based tile fixing mortars incorporating organic additives have been included in a separate section (Section 4). The previous edition applied to cement-based adhesives where latex-modified mortars requiring the addition of a specified amount of the latex was to be added to a mortar of a specified composition. However, there was no requirement for specifying the mortar composition or the amount of latex.

The method of test for strain development has been excluded from this edition as it is no longer considered to be necessary. Should a question arise regarding the compatibility of a cement-based adhesive with a specific tile, reference should be made to BS 5980 — 1980.

In the preparation of this Standard, cognizance was taken of the following Standards:

BS 5385 *Wall and floor tiling*

Part 1: *Code of practice for internal ceramic wall tiling and mosaics in normal conditions*

Part 2: *Code of practice for external ceramic wall tiling and mosaics*

Part 4: *Code of practice for ceramic tiling and mosaics in specific conditions*

BS 5980 *Specification for adhesives for use with ceramic tiles and mosaics*

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STANDARDS AUSTRALIA

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**Australian Standard**  
**Adhesives—For fixing ceramic tiles**

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SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE.** This Standard specifies performance requirements for organic-based adhesives, cement-based adhesives and cement-based mortars containing organic additives used as adhesives for the installation of ceramic wall and floor tiles and mosaics.

The Standard is not intended to cover adhesives such as chemical resistant epoxy and furan-based compositions, which are designed for the installation of ceramic tiles in industrial applications.

Specialized installations such as swimming pools, hot wall service conditions (e.g. tiled areas in close proximity to high heat output), industrial and institutional installations and cold wall service conditions (e.g. tiled areas in freezer chambers, cold rooms) are not specifically covered by this Standard.

**1.2 REFERENCED DOCUMENTS.** The following documents are referred to in this Standard.

AS

1157 Methods of testing materials for resistance to fungal growth

1157.1 Part 1: General principles of testing

1157.10 Part 10: Resistance of adhesives and glues to fungal growth

1309 Glossary of terms used in the adhesives industry

2193 Methods for calibration and grading of force-measuring systems of testing machines

BS

6431 Ceramic floor and wall tiles

Part 11: Method for determination of water absorption

**1.3 DEFINITIONS.** For the purpose of this Standard, the definitions given in AS 1309 and those below apply.

**1.3.1 Thin-bed**—a finished adhesive bedding coat not exceeding 3 mm in thickness.

**1.3.2 Thick-bed**—a finished adhesive bedding coat exceeding 3 mm in thickness.

**1.3.3 Organic-based adhesive**—an adhesive which may be supplied as either a one-part or a two-part mix, and in which the principal bonding component is an organic material.

**1.3.4 Cement-based adhesive**—an adhesive in which the principal bonding component is a hydraulic cement, e.g. Portland cement, modified by the inclusion of such other admixtures as may be necessary in order to achieve satisfactory bonding of ceramic wall and floor tiles and mosaics.

**1.3.5 Organic additive**—material added to a cement-based mortar for modifying its properties.

**1.3.6 Cement-based mortar**—a mixture with Portland cement and sand as the primary constituents.

**1.3.7 Prepared mortar**—a mortar containing a specified organic additive in a specified quantity in accordance with the additive manufacturer's instructions.

**1.3.8 Tiles of low water absorption**—tiles having water absorption of not more than 3 percent, by mass.

**1.3.9 Tiles of high water absorption**—tiles having water absorption greater than 10 percent and not more than 20 percent, by mass.

**1.3.10 Staining**—discolouration, due to the adhesive, of the body of the tile visible through the glaze, or of the glaze in some intensely coloured decorative tiles.

**1.3.11 Shelf life**—the period during which the adhesive or organic additive will comply with the requirements of this Standard when stored in an unopened container supplied by the manufacturer, under the conditions recommended by the manufacturer.

**1.4 CLASSIFICATION OF ORGANIC-BASED ADHESIVES.** Organic-based adhesives are classified as follows:

- (a) *General purpose*—for installation of ceramic tiles and mosaics in interior areas where the face of the tile is subjected to intermittent exposure to water.
- (b) *Water-resistant*—for installation of ceramic tiles and mosaics in areas where the face of the tile is subjected to prolonged exposure to water.